

Notice of Allowability	Application No.	Applicant(s)	
	10/829,604	HARTMAN, DAVID	
	Examiner	Art Unit	
	Erica E. Cadugan	3722	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to amendment of 2/22/06 and interview of 4/19/06.
2. ☒ The allowed claim(s) is/are 2, 8 and 9.
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☐ All b) ☐ Some* c) ☐ None of the:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).
 - * Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.

Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

- | | |
|---|--|
| 1. <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 5. <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 6. <input type="checkbox"/> Interview Summary (PTO-413),
Paper No./Mail Date _____. |
| 3. <input type="checkbox"/> Information Disclosure Statements (PTO-1449 or PTO/SB/08),
Paper No./Mail Date _____ | 7. <input checked="" type="checkbox"/> Examiner's Amendment/Comment |
| 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit
of Biological Material | 8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance |
| | 9. <input type="checkbox"/> Other _____. |

EXAMINER'S AMENDMENT

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Robert Brown on April 19, 2006.

The application has been amended as follows:

Claim 2 (Currently Amended). A system in accordance with Claim 9 wherein said means for shrink-fit centering comprises:

a) [a] said tool, having a cylindrical shank portion defining a continuous, uniform outer surface of substantially constant diameter; and

b) [a] said tool holder, having a conically tapered end portion and a tool mounting portion, said mounting portion including a central aperture extending therein, the diameter of said central aperture absent said tool shank portion being less than said diameter of said shank portion,

wherein said tool holder is formed of a material having thermal expansion and contraction characteristics such that the application of heat to said mounting portion thermally increases the diameter of said central aperture to allow said shank portion to be inserted into said aperture to a desired position,

wherein cooling of said tool holder after said tool insertion causes a rigid interface between the inner surface of said central aperture and the outer surface of said shank portion,

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Claim 7 has been canceled.

Claim 8 (Currently Amended). A system in accordance with claim [7] 9 wherein said angle is about five degrees.

Claim 9 (Currently Amended). A system for mounting a machine tool in a tool holder, comprising:

- a) means for shrink-fit centering of said tool in said tool holder;
- b) means for positive restraint of said tool from rotation within said tool holder, including a first flat formed on a shank of said tool extending into an aperture in said tool holder, and a first set screw disposed in a first threaded bore in said tool holder for engaging said first flat; and
- c) a second flat formed on said tool shank extending longitudinally from the end thereof and a second set screw disposed in a second threaded bore in said tool holder for cooperating with said second flat to angularly orient said tool during insertion of said tool into said holder, wherein said first flat is formed at an angle to the longitudinal axis of said tool.

2. The following is an examiner's statement of reasons for allowance:

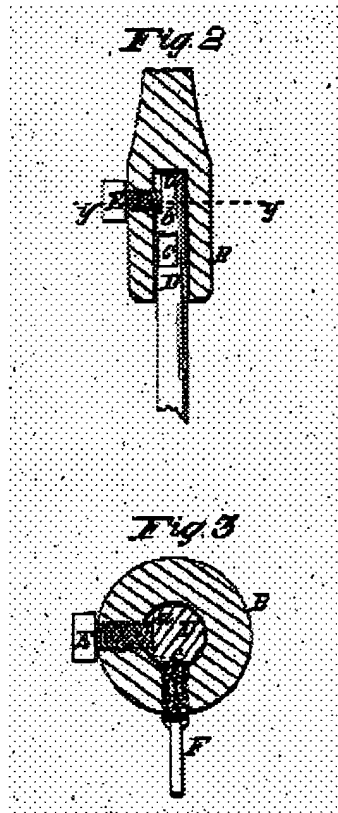
The previous rejection of claim 9 was based on a combination of WO 2001/45883 ('883) and U.S. Pat. No. 5,582,494 to Cook.

However, the Cook reference can no longer be relied upon to overcome the deficiencies of '883, at least because Cook does not teach at least the feature of the second flat "extending longitudinally from the end" of the tool shank (noting that the second flat of Cook is spaced from the end rather than extending "from" the end).

FIG. 1

FIG. 3

Alternatively, U.S. Pat. No. 35,618 to Mix teaches a holding arrangement for a tool bit having shank D. Note that the shank D has a flat “c” as well as a flat “a”, and that the flats are engaged by set screws F and E, respectively, and that the flat “a” extends from the end of the tool shank (see Figures 2 and 3 below).



However, it is noted that neither Beiter nor Mix serve to overcome the deficiencies of the WO '883 reference as now set forth in independent claim 9, at least because neither Beiter nor Mix teach that the claimed "first flat" is formed "at an angle to the longitudinal axis of said tool" as set forth in independent claim 9.

Also, there is no combinable teaching in the prior art of record that would reasonably and absent impermissible hindsight motivate one having ordinary skill in the art to so modify the teachings of WO '883, and thus, WO '883, neither singularly nor in any reasonable combination, does not render obvious the present invention as set forth in independent claim 9.

While it is noted that U.S. Pat. No. 3,202,433 to Davis, for example, teaches a tool holder arrangement wherein tool bit shank 16 is held within a bore 14 of tool holder 10 via two set screws 18 that engage flats 22 of the shank 16, and wherein the flats 22 are formed "at an angle

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to the longitudinal axis” of the tool bit (see Figures 1-2), Davis does not teach the feature from claim 9 of one of the flats “extending longitudinally from the end” of the tool shank (see Figure 2 noting that the flats are spaced from the end of the tool shank). Thus, Davis alone would not serve to overcome the deficiencies of ‘883. Additionally, to modify ‘883 with the teachings of Davis, and then to further modify the teachings of Davis with those of either Beiter or Mix would appear to involve the application of impermissible hindsight as there does not appear to be any teaching or reason for doing so, noting also that such a modification would involve a modification of a modification, which itself would appear to be an indication of impermissible hindsight.

Furthermore, it is noted that, even assuming arguendo that there would be some motivation absent impermissible hindsight to combine Davis and one of Beiter or Mix, a combination of Davis and either of Beiter or Mix would not result in the claimed invention of claim 9 since none of Davis, Beiter, or Mix teach the “means for shrink fit centering of said tool in said tool holder”.

The aforescribed prior art being representative of the closest prior art of record to the present invention as set forth in independent claim 9, for at least the foregoing reasoning, the prior art of record neither anticipates nor renders obvious the present invention as set forth in independent claim 9.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled “Comments on Statement of Reasons for Allowance.”

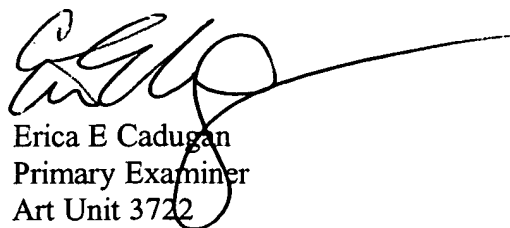
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Conclusion

3. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Erica E. Cadugan whose telephone number is (571) 272-4474. The examiner can normally be reached on M-F, 6:30 a.m. to 4:00 p.m., alternate Fridays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Boyer D. Ashley can be reached on (571) 272-4502. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Erica E Cadugan
Primary Examiner
Art Unit 3722